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October 3, 2005

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Ex Parte Communication
IB Docket No. 02-364
ET Docket No. 00-258

Dear Ms. Dortch:

On September 30, 2005 the undersigned, accompanied by David Harbourne, President and Jeffrey Okamitsu, Vice-President-Technology, Fusion UV Systems, Inc. ("Fusion"), met with Bruce Franca, Acting Chief, Office of Engineering and Technology, Julius Knapp, Deputy Chief, Jamison Prime, Chief, Spectrum Policy Branch, and Patrick Forster, Senior Engineer, OET, and with Howard Griboff, Assistant Chief, Policy Division, International Bureau regarding Fusion's position in the above-referenced proceedings.

The points made during the meeting are set forth in Fusion's earlier filings, in particular its Consolidated Opposition of January 21. In addition, Fusion offered the following comments regarding the letter submitted by the Wireless Communications Association International, Inc. ("WCA") on September 9. In that letter, WCA advanced another proposal for dealing with its claim that the Rules for Industrial, Scientific and Medical ("ISM") devices operating in the 2.4 GHz band must be changed in order to protect Broadband Radio Service ("BRS") licensees from harmful interference. As shown below, the recent WCA proposal is not an improvement.

Background

In their original Petitions for Reconsideration, WCA and its member, Sprint Nextel, sought to have the Commission reverse its earlier determination that BRS would be able to co-exist with ISM devices in the 2496-2500 MHz band just as other classes of licensees have for many years. WCA proposed that the Commission change the long-established Part 18 Rules for the ISM band, Rules which, among other things, do not limit in-band power for other services against ISM devices operating in the worldwide ISM band from 2400-2500 MHz. Instead, WCA urged that the Commission adopt Part 15 limits for ISM operating in 2496-2500 MHz, i.e. 500 microvolts per meter measured at 3 meters. See Rule 15.209.

Fusion, the Association of Home Appliance Manufacturers, various manufacturers of microwave ovens, and the International Microwave Power Institute, the trade association for ISM device manufacturers, all opposed WCA's request.

In the September 9 letter WCA drops the Part 15 notion, and instead urges that the Commission import the out-of-band emission limit for ISM devices above 2500 MHz and below 2400 MHz into the ISM band itself, i.e. into the portion from 2496-2500 MHz.

Discussion

Preliminarily, the September 9 letter underscores the continuing procedural deficiencies in WCA's case. Previously, Fusion observed that WCA et al had failed to submit anything in the nature of a study to document the claims of harmful interference. The WCA letter does so, but what it submits is an NTIA document which is eleven years old. A document like this hardly can be characterized as newly-discovered evidence, or material which could not have been learned of earlier "through the exercise of ordinary diligence ...."Rule 1.429 (b). Understandably, WCA does not even try to so characterize it. Thus, in addition to the procedural deficiencies previously detailed by Fusion, the September 9 filing supports dismissal of the Petitions. Any other result would set a precedent eviscerating any semblance of orderly procedure for Commission rulemakings. If, despite this, the Commission should choose to give a moment's consideration to the merits of the WCA letter, it fares no better.[1]

"Harmful interference" is a defined term. In pertinent part, it means interference which "seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating in accordance with this chapter." Rule 18.107(b). At no point has WCA made a showing that the interference it complains of would meet this test. An analysis to determine harmful interference requires an assessment of the user's proximity to the source of the interference, how often the user would be within the interference area, how often he or she would be seeking to operate a BRS device, how often the interfering device would be operated at the exact same time as the BRS user would seek to operate his or her device, the duration of any interference, etc., etc. Probabilistic considerations like these are vital to any reasoned consideration of the matter, yet WCA does not acknowledge, much less resolve, them.

Take, for example, the 1 percent duty cycle for microwave ovens referenced by the Association of Home Appliance Manufacturers in its September 27 filing. Contrary to WCA's assertion (September 9 letter at note 16), there is nothing "absurd" about requiring the consumer to take steps to avoid interference (assuming there be any at all) as short-lived as this. The Commission itself has endorsed this proposition when it made clear that it is not its job to protect

[1] In passing. it is noted that the NTIA study is not only of questionable utility for the reasons pointed out by AHAM in its September 27 ex parte, but it has nothing whatsoever to do with the universe of non-consumer devices of which Fusion's UV curing lamps are just one example.

users against self-inflicted interference. See In the Matter of 1998 Biennial Review – Conducted Emission Limits Below 30 MHz for Equipment Regulated under Parts 15 and 18 of the Commission's Rules, FCC 99-296, 14 FCC Rcd 18180 (1999) at para. 23 (interference "standards do not attempt to control interference between the user's own devices ... [T]he consumer can take steps to control interference between closely-spaced devices in their possession.").

In effect, therefore, users of BRS devices will be in the same position as users of WiFi devices -- an example of broadband Internet access equipment which has operated successfully in the 2.4 GHz band for years without special protection as against ISM. See Fusion's Consolidated Opposition, filed January 21, 2005 at page 12 and notes 3 and 35 for citations to the repeated instances where the Commission has recognized the lack of interference complaints from ISM.

While WCA's arguments fail to raise any question of harmful interference in respect of microwave ovens, there are yet additional factors rendering those arguments utterly immaterial in the case of industrial devices like Fusion's. Devices like these are used in factories and plants far removed from the general public, the access to which is tightly controlled by the manufacturer, as are the types of devices invitees are allowed to bring into their facilities. Moreover, industrial devices like Fusion's are often encased in a larger machine or otherwise shielded as part of the manufacturing process in the plant. WCA has offered not a shred of evidence undermining the materiality of these factors to the correctness of the Commission's conclusion.

Given this record, the Commission's historic treatment of industrial devices is all the more pertinent. In concluding that there was no risk of harmful interference to BRS, the Commission observed that ISM devices are used "in a controlled environment." Report and Order and Further Notice of Proposed Rulemaking in WT Docket No. 03-66, FCC 04-135, at para. 28; see also 1998 Biennial Regulatory Review, FCC 02-157, 17 FCC Rcd 10806 (2002) at para. 18 (noting the "wider separation distances between equipment which occur[s] in business and commercial environments [versus residential environments]"). That, of course, is exactly what characterizes manufacturing plants, i.e. "controlled environment[s]." It is for reasons like these that the Commission has long placed industrial and medical ISM devices in a different category for regulatory purposes than consumer devices. See Consolidated Opposition, filed January 21, 2005 at page 12 (citing Commission decisions treating consumer and non-consumer ISM devices differently). Nothing in the WCA/Sprint Nextel papers deals with the industrial/non-industrial distinction.

Nevertheless, WCA complains about an alleged unwillingness on the part of Fusion and AHAM members to engage in discussions. While it is not the responsibility of other parties to repair deficiencies in a petitioner's case, the more important point is that WCA fails to grasp the

implications of its insistence that its Rules apply to all ISM devices: Consumer and non-consumer, industrial and non-industrial, medical and non-medical.

One of the benefits to the designation of the 2.4 GHz band as an international home for ISM devices subject to minimal regulatory constraints is that it has allowed ISM technology to flourish. There are myriad different devices, and types of devices, operating in the band. These devices bear very little resemblance to each other, either in their purpose or in their emission characteristics. The common denominator is that they are not allowed to radiate in excess of specified levels outside the band, and that any other service, whether licensed or not, which operates within the band must do so knowing that it is not entitled to priority status as against ISM. See also, e.g., Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services, 17 FCC Rcd 23193 (2002) at para. 26; Broadcast Corp. of Georgia, 52 RR2d 530 (1982) at paras. 10-11 (incumbent services protected as against newcomers).

In other words, the performance of microwave ovens is immaterial to medical diathermy machines, whose performance is immaterial to UV curing lamps, whose performance is immaterial to heat induction devices, and so on. Thus, WCA's complaints about a lack of data on microwave ovens, or on UV curing devices, are quite immaterial given the fact that WCA wants its Rule to apply to all ISM devices.

Finally, there is WCA's failure to acknowledge the significance of 2.4 GHz as an internationally harmonized band for ISM. If WCA's argument were to be accepted -- despite the absence of a showing of harmful interference -- US manufacturers would be placed at a significant disadvantage vis-à-vis their foreign competition. Fusion and many other ISM manufacturers compete in the global marketplace. It would be costly for them to design, develop, and manufacture products which would have to meet one standard for the international market, and a different, tighter standard for the US market.

Among other things, such regulations would effectively require Fusion, which has 44,000 installations worldwide, and other US manufacturers, to maintain two separate assembly lines, two separate sets of regulatory compliance policies and oversight, two separate sets of marketing materials, and so on. Fusion and other US-based companies would also have to explain to potential buyers why they should spend more on a US-supplied product than on a foreign supplier's product. At the outset, Fusion and other US companies would be at a disadvantage.[2]

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[2] For the record, if the Commission were to consider even for a moment imposing an in-band power limit on ISM (i.e. effectively narrowing the ISM band), it would be obligated to provide proper public notice and an opportunity for the public to comment. See 5 U.S.C. 553. There is nothing in the Notice of Proposed Rulemaking or the decision here which could be said to have put the public on notice that the agency was considering the adoption of in-band power limits, a notion which first surfaced in WCA's Petition for Reconsideration

* * *

Just three years ago, the Commission had occasion once again to review the wisdom of international harmonization for ISM devices. In words which were prescient given the issues raised here, it said:

> Harmonizing our rules with international standards will allow manufacturers to produce products for distribution in several markets without any modification, thus reducing costs. This harmonization will be particularly beneficial to small business entities that have limited resources to maintain separate product lines in order to ensure compliance with region or county-specific requirements. Moreover, this will enhance the value of Mutual Recognition Agreements (MRA) for U.S. manufacturers, thereby promoting the growth and international expansion of U.S. industries.

See 1998 Biennial Review, Report and Order, FCC 02-157, 17 FCC Rcd 10806 (2002) at para. 9. It would be disruptive in the extreme were the Commission to reverse itself, and many years of international harmonization for ISM, by adopting the proposed in-band limits.

Accordingly, for the foregoing reasons and those expressed in Fusion's earlier filings, the WCA Petition should be promptly denied, if not dismissed.

Respectfully submitted,

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